

A light that's bright

Illuminating Concepts develops system of 'smart' streetlights

BY DANIEL DUGGAN | JANUARY 7, 2010

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Ron Harwood, principal and creative director for Farmington Hills-based Illuminating Concepts, says his streetlights can add safety, save costs and reduce electric bills. [View larger photo](#)

While most people look at a streetlight and see a metal frame with a light on top, Ron Harwood sees opportunity.

As principal and creative director for Farmington Hills-based Illuminating Concepts, Harwood has developed a niche designing LED displays at major entertainment venues such as Comerica Park and the just-opened CityCenter in Las Vegas.

But over the past eight years, Harwood and his team have been developing a new streetlight system that he expects to be a revolutionary advance in lighting technology.

Called "Intellistreets," Harwood brings wireless control to streetlights, combined with the ability to display along with music or pre-recorded messages

from speakers.

The concept has potential for making downtowns livelier with lights and music, but the streetlights also could be used for safety and cost savings.

"Imagine someone walking down a path at night and the system detects a person walking and makes the path brighter," Harwood said. "Or a parking lot where the lights dim after the last car leaves.

"The savings produced by using an LED light can be doubled by using this system."

Three patents have been secured for the product, and orders are in negotiation, Harwood said.

He and his team are handling the initial sales, but he is negotiating with three international firms interested in purchasing franchise rights. He would not name the interested buyers but said he is hoping to have the first models installed in Michigan.

"I want them to be here first," he said. "I want them to be made here in Michigan as well. It's important that new jobs created stay here in the state."

Grants are pending with the state of Michigan, the Department of Energy and the Department of Defense.

Illuminating Concepts was formed in 1981 to design specialty lighting displays. The firm has grown in revenue over the past year as it has picked up larger clients.

It had 2008 revenue of \$8.5 million and expects revenue of \$20 million in 2009. The company has just completed its work as executive lighting designer for the 19-million-square-foot CityCenter project in Las Vegas, where it coordinated work with all of the contractors handling lighting projects.

While streetlights seem a long way from projects such as the MGM Grand Detroit, Harwood said it is a natural extension of the software development and lighting know-how his firm has developed.

"That experience we have has been waiting for us to realize there were so many more applications," he said.

The key to the system is the wireless network.

Harwood compares it to the concept that digital animators used in the early days of computer animation; one computer used the excess computing capacity of others in the network.

Likewise, the Intellistreets light poles will create a wireless network by linking to other poles nearby.

With the use of the wireless network, other elements of the invention are possible.

"Up until now, wireless networks have been used to turn things on and off," Harwood said. "That has been extended."

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While the speakers on the lights can be programmed to play music, in an emergency a pre-recorded message can be played. The audio message can be illustrated with text or images on large LED displays attached to each light pole.

The poles also contain sensors that can detect harmful gas and send warnings.

Sensors can also detect detailed information on traffic counts or foot traffic.

While Harwood said universities and governments are prime sales markets, the military also is a strong option. The Intellistreets light poles have defense applications that Harwood would not discuss.

The cost of \$3,000 to \$3,500 per unit is more than the range of \$1,500 to \$2,500 for traditional lights. Harwood said that even with all the technology, the units still use half the electricity.

In addition, the system can be retrofitted to existing streetlights with the speaker and intelligence units built into the head of the light.

The technology of wireless controls for streetlights has a growing demand, but there are still few companies in the market, said Craig Rosenquist, communications product line manager with Raynham, Mass.-based Sunrise Technologies. Sunrise markets a wireless control that can be retrofitted onto an existing streetlight and has been marketing the product around the country.

Users of the service have to weigh the benefits of the technology against the added cost.

"It is a very new technology, a new market," Rosenquist said. "There is not much of it being used yet. It's at its infancy, but there is a lot of potential."

Some elements of the Intellistreets system have been used by other companies, but no company has tied so many elements together like Illuminating Concepts has, said Mike McNalley, director of business energy services for Detroit-based DTE Energy Co., overseeing the company's community lighting department.

"They brought a unique point of view, approaching this not from the view of lighting streets but from the view of a company that does lighting and entertainment," he said.

"They're looking at what they can do to bring people to downtown Plymouth or downtown Detroit rather than how to light the streets."

DTE owns and operates 200,000 streetlights in Michigan and has explored the idea of purchasing the Intellistreets units.

But, McNalley said, the key will be for local governments to be interested in the specific uses.

"We understand light but wouldn't want to operate the emergency system; that would be for the city or township," he said. "And the downtown can get involved with signage."

"So the challenge for Intellistreets will be in knitting together the coalition of all the end users," he said.

That challenge isn't lost on Harwood.

Even after spending almost 10 years developing the system, he knows that the greatest applications of the system are yet to be tapped.

"It's infinite," he said. "And the end users will decide the best ways to use it."

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